State Revolving Fund Loan Program
an Indiana Finance Authority Environmental Program

100 North Senate Avenue, Room 1275
Indianapolis, Indiana 46204
www.srf.in.gov

MEMORANDUM

TO: Project File, City of Terre Haute, Wastewater Treatment Plant Additions and Improvements and Terre Haute Coke & Carbon Brownfields Remediation, SRF Project # WW 10058401

FROM: Richard J. Ziemba

DATE: February 6, 2013 (Final)

RE: Green Project Reserve, Business Case

Summary

1. The Terre Haute project consists of two separate projects. The first project is additions and improvements to the city's existing wastewater treatment plant (WWTP). The wastewater treatment plant project was approved on August 31, 2012 and consists of the following: construction of a new septage and grease receiving station, improvements to the flow equalization basins and pump station, construction of a new side stream pump station, construction of a new blower building with turbo blowers, construction of four new anoxic tanks, four new aeration tanks, improvements to the existing aeration tanks, improvements to four existing secondary clarifiers, construction of two new secondary clarifiers, new sludge return pump building with new return sludge pump, new UV disinfection system and building, conversion of primary clarifiers to waste sludge storage tanks, construction of new sludge processing equipment, four liquid sludge storage tanks and pump building with odor control systems, construction of a new plant water system, improvements to aerobic digestion system

   The second project is a Brownfields remediation of the Terre Haute Coke & Carbon site which was approved on October 19, 2012. This project is the soils remediation of approximately 20 acres of a former manufacturing facility along 13th Street and Hulman Street. At this location a coke, benzol and gas manufacturing facility occupied the site. The operations of the facility resulted in the soils and groundwater being contaminated with a variety of hazardous substances which have been leaching into the groundwater, combined sewer system and possibly the Wabash River. This remediation project is considered to be a non-point source project and is categorically exempt in the green infrastructure category, which does not require a business case. The energy efficient efficiency GPR description was developed and presented by HNTB, consulting engineers for the City in the appendices of the preliminary engineering report (PER). A business case was developed for the energy efficient component.

2. The energy efficient component is the installation and use of 6 turbo blowers versus the use of standard centrifugal blowers or positive displacement blowers that are currently being used at the WWTP. A business case was developed comparing the electrical energy usage of both types of blowers. The result of the business case shows that by using the turbo blowers there would be an energy usage savings of 29% - 34% per year, depending on the operational usage, which is influenced by the wastewater flow. This represents a total savings of $167,190 per year for this component. Therefore, the energy usage reduction exceeds the 20% reduction GPR requirement. The estimated construction cost for this component was $3,000,000. **The actual bid cost for this item is $2 988,000.**

3. The green infrastructure component is the soils remediation of a Brownfields site. The estimated construction cost of this component was $6,781,643. **The actual bid cost for the soils remediation is $6,731,000.**

4. The total GPR component amount for the WWTP Additions and Improvements project was estimated at $3,000,000, with engineering cost of $330,000 for a total estimated GPR cost of $3,330,000. **The actual as-bid energy efficient GPR cost for the component portion of the WWTP Improvements and Additions project is $2,988,000. The GPR engineering cost for the WWTP Improvements and Additions project is $306,074, for a total GPR as-bid cost of $3,294,074. The actual as-bid GPR cost for the Brownfields soil remediation is $6,731,000. The total as-bid GPR for the loan is $10,025,074.** Terre Haute closed on a SRF loan on December 13, 2012 in the amount of $139,371,000.

Conclusions

1. The business case and categorical exclusion was reviewed by internal staff and found to be in accordance with meeting the GPR requirements for energy efficiency and green infrastructure categories.